

*V. Summary of claimed subject matter.*

Independent claims 4, 7, 9, 11, and 67 are presented on appeal.

**Independent Claim 4**

Claim 4 seeks to protect a dental hygiene apparatus that comprises the following:

a dispensing member comprising an annular dispensing ring with an aperture for receiving a finger of a user;

[The dispensing member is first referenced in the detailed description on p. 15, line 13, and is indicated at 12 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

an annular dispensing bobbin for retaining dental floss relative to the dispensing member wherein the dispensing bobbin is rotatably retained for substantially concentric rotation relative to the dispensing ring;

[The concentrically disposed dispensing bobbin is first referenced in the detailed description on p. 17, line 5, and is indicated at 38 in, for example, FIGS. 3C-E and G and 5G.]

an activating switch operably associated with the dispensing bobbin for selectively enabling a dispensing of dental floss from the dispensing member;

[The activating switch of the dispensing bobbin is first referenced in the detailed description on p. 16, line 1, and is indicated at 18 in, for example, FIG. 1 and FIGS. 2A-C.]

a means for preventing an accumulation of dental floss relative to the dispensing member including during a triggering of the activating switch comprising a means for ensuring unidirectional, dispensing rotation of the dispensing bobbin;

[The means for preventing an accumulation of dental floss relative to the dispensing member

is first referenced in the detailed description on p. 17, line 2, and is described as including any means for ensuring unidirectional rotation of the bobbin including a ratchet arrangement, a drag arrangement (p. 16, line 13). Ratchet arrangements are shown, for example, in FIGS. 3E-G and 5A-B.]

an accumulating member structurally separate from the dispensing member; and

[The accumulating member is first referenced in the detailed description on p. 15, line 13, and is indicated at 14 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

a means for accumulating dental floss relative to the accumulating member;

[The means for accumulating dental floss relative to the accumulating member is shown as a bobbin 38 in, for example, FIGS. 3C and D and is first referenced in the detailed description on p. 17, line 5.]

whereby dental floss can be dispensed from the dispensing member and accumulated by the accumulating member.

### **Independent Claim 7**

Claim 7 is directed to a dental hygiene apparatus comprising:

a dispensing member comprising an annular dispensing ring with an aperture for receiving a finger of a user;

[The dispensing member is first referenced in the detailed description on p. 15, line 13, and is indicated at 12 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

an annular dispensing bobbin for retaining dental floss relative to the dispensing member

wherein the dispensing bobbin is rotatably retained for substantially concentric rotation relative to the dispensing ring;

[The concentrically disposed dispensing bobbin is first referenced in the detailed description on p. 17, line 5, and is indicated at 38 in, for example, FIGS. 3C-E and G and 5G.]

an accumulating member structurally separate from the dispensing member comprising an accumulating ring with an aperture for receiving a finger of a user; and

[The accumulating member is first referenced in the detailed description on p. 15, line 13, and is indicated at 14 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

an accumulating bobbin for accumulating dental floss relative to the accumulating member wherein the accumulating bobbin is rotatably retained for substantially concentric rotation relative to the accumulating ring;

[The accumulating bobbin 38 is shown in, for example, FIGS. 3C and D and is first referenced in the detailed description on p. 17, line 5.]

whereby dental floss can be dispensed from the dispensing member and accumulated by the accumulating member.

### **Independent Claim 9**

Claim 9 sets forth a dental hygiene apparatus that comprises:

a dispensing member comprising an annular dispensing ring with an aperture for receiving a finger of a user;

[The dispensing member is first referenced in the detailed description on p. 15, line 13, and is

indicated at 12 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

an annular dispensing bobbin for retaining dental floss relative to the dispensing member wherein the dispensing bobbin is rotatably retained for substantially concentric rotation relative to the dispensing ring;

[The concentrically disposed dispensing bobbin is first referenced in the detailed description on p. 17, line 5, and is indicated at 38 in, for example, FIGS. 3C-E and G and 5G.]

an accumulating member structurally separate from the dispensing member;

[The accumulating member is first referenced in the detailed description on p. 15, line 13, and is indicated at 14 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

a means for accumulating dental floss relative to the accumulating member;

[The means for accumulating dental floss relative to the accumulating member is shown as a bobbin 38 in, for example, FIGS. 3C and D and is first referenced in the detailed description on p. 17, line 5.]

an activating switch operably associated with the means for accumulating dental floss relative to the accumulating member for selectively enabling a retraction of dental floss relative to the accumulating member;

[The activating switch of the accumulating member is first referenced in the detailed description on p. 16, line 5, and is indicated at 20 in, for example, FIG. 1 and FIGS. 2A-C.]

a means for inducing an automatic accumulation of dental floss relative to the accumulating member during a triggering of the activating switch;

[The means for inducing an automatic accumulation of dental floss is described as

comprising a coil spring on page 17, line 9, and is referenced at 32 in, for example, FIG. 3B.]

whereby dental floss can be dispensed from the dispensing member and accumulated by the accumulating member.

### **Independent Claim 11**

Claim 11 is directed to a dental hygiene apparatus comprising:

a dispensing member;

[The dispensing member is first referenced in the detailed description on p. 15, line 13, and is indicated at 12 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

a means for retaining dental floss relative to the dispensing member;

[The concentrically disposed dispensing bobbin, which acts as a means for retaining dental floss, is first referenced in the detailed description on p. 17, line 5, and is indicated at 38 in, for example, FIGS. 3C-E and G and 5G.]

an accumulating member structurally separate from the dispensing member; and

[The accumulating member is first referenced in the detailed description on p. 15, line 13, and is indicated at 14 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

a means for accumulating dental floss relative to the accumulating member;

[The means for accumulating dental floss relative to the accumulating member is shown as a bobbin 38 in, for example, FIGS. 3C and D and is first referenced in the detailed description on p. 17, line 5.]

wherein the dispensing member and the accumulating member are color coded;

[Color coding is described in the paragraph beginning on p. 17, line 17.]

whereby dental floss can be dispensed from the dispensing member and accumulated by the accumulating member.

### **Independent Claim 67**

Independent claim 67 is directed to a dental hygiene apparatus that comprises:

a dispensing member comprising an annular dispensing ring with an aperture for receiving a finger of a user;

[The dispensing member is first referenced in the detailed description on p. 15, line 13, and is indicated at 12 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

a dispensing bobbin for retaining dental floss relative to the dispensing member wherein the dispensing bobbin is rotatably retained for substantially concentric rotation relative to the dispensing member;

[The concentrically disposed dispensing bobbin is first referenced in the detailed description on p. 17, line 5, and is indicated at 38 in, for example, FIGS. 3C-E and G and 5G.]

an accumulating member structurally separate from the dispensing member wherein the accumulating member comprises an annular accumulating ring with an aperture for receiving a finger of a user;

[The accumulating member is first referenced in the detailed description on p. 15, line 13, and is indicated at 14 in, for example, each of FIGS. 1 and 2A, 2B, and 2C.]

an accumulating bobbin for accumulating dental floss relative to the accumulating member

wherein the accumulating bobbin is rotatably retained for substantially concentric rotation relative to the accumulating member;

[The means for accumulating dental floss relative to the accumulating member is shown as a bobbin 38 in, for example, FIGS. 3C and D and is first referenced in the detailed description on p. 17, line 5.]

wherein the dispensing bobbin is enclosed within a housing of the dispensing member and wherein the accumulating bobbin is enclosed within a housing of the accumulating member;

[The “torroidal housing 15” is first described as retaining a “bobbin 38” on p. 17, line 6, and the accumulating and dispensing bobbins are shown as being within housings in, for example, FIGS. 3A-G, 4, 5A, 5B, 6B, and 6C.]

whereby dental floss can be dispensed from the dispensing member and accumulated by the accumulating member.

*VI. Grounds of rejection to be reviewed on appeal.*

- Whether claims 4, 5, 6, and 64 are obvious under 35 U.S.C § 103 based on Cheng, U.S. Patent No. 5,415,188 to Altshuler, and U.S. Patent No. 5,680,875 to Winters.
- Whether claims 7, 8, and 67 are rendered obvious by Cheng in combination with Winters and whether claims 19-21 are unpatentable over Cheng in view of Winters and U.S. Patent No. 3,745,788 to Sullivan.
- Whether claims 9, 10, 12-17, 22, 23, 65, and 68 are unpatentable over Cheng when combined with Winters and U.S. Patent Publication No. 2004/0163665 of Alvarez and whether claims 18 and 66 are unpatentable over Cheng in view of Alvarez and Winters as applied to claims 16 and 65 in further view of Altshuler.
- Whether claim 11 is anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 5,199,452 to Cheng.



*VII. Argument.*

For the reasons discussed below, it is respectfully submitted that allowance of all pending claims is warranted.

**Whether claims 4, 5, 6, and 64 are obvious under 35 U.S.C § 103 based on Cheng, U.S. Patent No. 5,415,188 to Altshuler, and U.S. Patent No. 5,680,875 to Winters.**

*Independent Claim 4*

The Applicant respectfully submits that independent claim 4 is not rendered obvious by U.S. Patent No. 5,199,452 to Cheng even when combined with U.S. Patent No. 5,415,188 to Altshuler and U.S. Patent No. 5,680,875 to Winters. Claim 4 requires, among other things, that the dispensing member comprise “an *annular dispensing ring* with an aperture for receiving a finger of a user” and that there be “an *annular dispensing bobbin* for retaining dental floss relative to the dispensing member wherein the dispensing bobbin is rotatably retained *for substantially concentric rotation* relative to the dispensing ring.” (Emphasis supplied).

Neither Cheng, Winters, Altshuler, nor any obvious combination or modification discloses an annular dispensing ring with a concentrically retained dispensing bobbin. As defined in The American Heritage® Dictionary of the English Language: Fourth Edition, a “ring” is “A circular object, form, line, or arrangement with a vacant circular center.” Cheng’s barrel-shaped housings do not comprise rings and, consequently, do not provide apertures for receiving a finger of a user as claim 4 demands. Cheng teaches that it is desirable to provide housings that can be retained in a user’s hand. To that end, Cheng provides “a pair of discrete housing configured to be held in

opposite hands of a user.” Col. 1, lines 40–41. One skilled in the art would be taught away from providing a ring with an aperture for receiving a finger of a user *and an annular dispensing bobbin* retained for concentric rotation as Applicant’s claim 4 specifies.

In referencing Winters, the Office points to Figure 10 in support of the conclusion that the patent “discloses a flossing device wherein the floss spool is contained in a housing and includes a ring for receiving the finger of the user ...” Office Action, 01/09/2008, p. 3. However, Figure 10 and the textual description thereof in Winters discloses only a T-shaped “finger grip member 64” with an open “grip area 63” to each side thereof. Furthermore, the “spool dispenser 50” in Figures 6a, 6b, 7, 8a, and 8b does not have a concentrically disposed bobbin and, therefore, is missing an entire element claimed by the Applicant. No reasonable interpretation of Winters could be said to teach or render obvious an “annular ring” with a concentric “annular dispensing bobbin” as required by claim 4 since, by definition, an annular ring comprises a circular structure and since a concentric dispensing bobbin must be provided that is rotatable relative to the annular ring.

Here, finding the invention of claim 4 unpatentable would require more than a mere combination of the teachings of prior art disclosures in an obvious manner. Instead, reading Winters to render Applicant’s claimed structure obvious requires impermissibly adding teachings and structure to the prior art based on the Applicant’s own invention. Using an invention as the blueprint for its own reconstruction represents improper hindsight reasoning. One “cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Furthermore, to modify the structure of both Winters and Cheng to approximate Applicant’s claimed invention, one would need

to change the principle of operation of the Winters structure. As is well settled, where the principle of operation of a prior art arrangement must be changed to meet the claim limitations, “then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” MPEP 2143.01(VI). (citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

Of course, it is equally clear that Altshuler’s wand-shaped housing would not teach one skilled in the art to provide the annular dispensing ring with a concentric annular bobbin disclosed and claimed by the Applicant.

In brief, nowhere in the cited art is there disclosed or rendered obvious a dental hygiene apparatus with an annular dispensing ring with a concentric annular dispensing bobbin together with an activating switch and a “a means for preventing an accumulation of dental floss relative to the dispensing member including during a triggering of the activating switch comprising a means for ensuring unidirectional, dispensing rotation of the dispensing bobbin”. It is respectfully submitted, therefore, that no cited reference or obvious combination or modification thereof can properly support an anticipation or obviousness rejection of claim 4. Accordingly, the Office’s reconsideration and allowance of independent claim 4 and claims 5, 6, and 64, which depend therefrom, are respectfully requested.

**Whether claims 7, 8, and 67 are rendered obvious by Cheng in combination with Winters and whether claims 19-21 are unpatentable over Cheng in view of Winters and U.S. Patent No. 3,745,788 to Sullivan.**

*Independent Claim 7*

Like claim 4, independent claim 7 demands an annular dispensing ring with a concentrically disposed annular bobbin. However, claim 7 enjoys added patentability in that it further requires an accumulating ring that also has a concentrically retained annular bobbin. Even where Winters teaches the use of a “spool dispenser 50”, Winters would guide one skilled in the art toward employing the “spool dispenser 50” in combination with a “take-up spool member 12” that essentially comprises a simple stick. Since he teaches using such disparate dispensing and accumulating structures, Winters would not teach or render obvious providing an annular dispensing ring with a concentric dispensing bobbin in combination with an annular accumulating ring with a concentric accumulating bobbin. Claims 8 and 19-21 are patentable in that they depend from allowable claim 7.

*Independent Claim 67*

Independent claim 67 is directed to a dental hygiene apparatus with an annular dispensing ring with a concentric dispensing bobbin and an accumulating ring with a concentric accumulating bobbin such that it is patentable for the reasons described above. However, claim 67 further specifies that the dispensing bobbin is enclosed within a housing of the dispensing member and that the accumulating bobbin is enclosed within a housing of the accumulating member. It is respectfully submitted that, when claim 67 is considered as a whole as it must be, that the provision of a dispensing and accumulating rings, each with concentric bobbins disposed within dedicated housings, is still more clearly not taught or rendered obvious by even the combined and modified cited art. Claim 68 is patentable in that it depends from allowable base claim 67.

**Whether claims 9, 10, 12-17, 22, 23, 65, and 68 are unpatentable over Cheng when combined with Winters and U.S. Patent Publication No. 2004/0163665 of Alvarez and whether claims 18 and 66 are unpatentable over Cheng in view of Alvarez and Winters as applied to claims 16 and 65 in further view of Altshuler.**

*Independent Claim 9*

Claim 9 again requires an annular dispensing ring and a concentric annular dispensing bobbin together with a structurally separate accumulating member such that it patentably defines over Cheng and Winters. However, claim 9 additionally requires an activating switch and a means, such as a coil spring, “for inducing an automatic accumulation of dental floss relative to the accumulating member during a triggering of the activating switch”. Since Cheng and Winters fail to render obvious Applicant’s claimed dispensing ring with a concentric annular dispensing bobbin, one skilled in the art would not find it obvious to provide such a structure having an accumulating member with a means for inducing an automatic accumulation of floss in response to a pressing of an activating switch. Dependent claims 10, 12-18, 22, 23, 65, and 66 are patentable in that they depend from allowable base claim 9.

**Whether claim 11 is anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 5,199,452 to Cheng.**

*Independent Claim 11*

The dental hygiene apparatus of claim 11 is not taught or rendered obvious by even the combined prior art. Nowhere in the cited references is there disclosed or rendered obvious a dental hygiene apparatus with, among other things, a dispensing member and a structurally separate

accumulating member that are color coded to enable a user to differentiate between the dispensing member holding clean floss and the accumulating member holding contaminated floss. Indeed, it appears that no support whatsoever has been provided for the Office's rejection of claim 11. Accordingly, the Applicant respectfully submits that there is no proper basis for rejecting claim 11.

### **Conclusion**

The cited art neither discloses nor renders the claimed invention obvious. Therefore, the Applicant most respectfully submits that the claims presented are patentable over the cited art. With this in mind, the Office's reconsideration and allowance of the specification and claims 4-23, 49-53, and 59-68 are respectfully requested.